

Hanford Performance Indicator Forum

Choosing Performance Indicators

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<http://www.hanford.gov/safety/vpp/trend.htm>

Performance Indicator Introduction

? Remember the basics – It is more important how the measure is used than what the measure is

**? Hanford Trending Primer -
<http://www.hanford.gov/safety/vpp/busobj2.htm>**

? HNF-PRO-4294 Performance Indicator Process establishes roles and responsibilities for choice of indicators, and how to use the indicators.

Barriers to PI Development - **FEAR**

- ? Higher ups will use it as a “hammer”
- ? Subjected to quotas and targets imposed from above
- ? Fear (“accountability”) used as a “motivator”
- ? Actions and Explanations as a result of random fluctuations
- ? Perceived loss of control over portrayal of performance
- ? Must develop “perfect” indicator the first time

Use of SPC (HNF PRO 4294) can minimize these fears

Three Information Sources

? Worker and Customer Opinion

? Expert Review

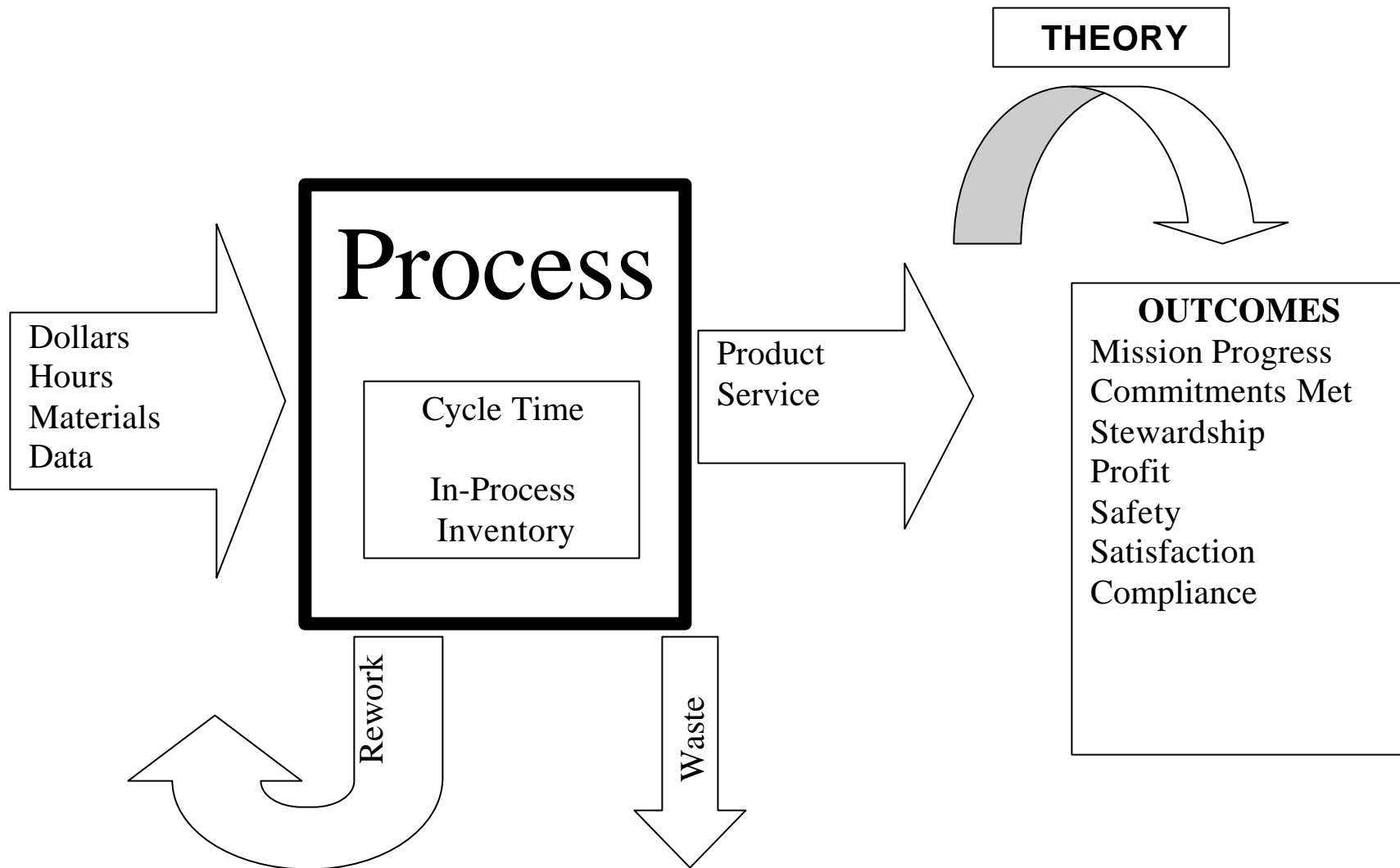
? Process Measures

We will focus on Process Measures for this topic. Note that opinions can be converted to measurement data with survey analysis, and review results can be converted to measurement data through grading criteria.

Top-Down (ideal) Approach

- ? Look at your Mission and Vision
- ? What are your Products, Services and Customers
- ? What is your Business Objective
- ? What are desired Outcomes
- ? What are the Processes that accomplish the above
- ? Decide on Measures (see next page)
- ? Go set up data sources, gather data

Performance Indicators for a Generic, Black Box Process



Connection from Output to Outcome

- ? Outcomes are only achieved as a result of a process
- ? Focusing ONLY on outcomes is a sure path to failure
- ? Ignoring outcomes is a sure path to failure
- ? When I provide a Product or a Service, what is my THEORY that connects this to a favorable outcome?

Example – I provide statistical training to you. My product is you, as you leave this room. My theory is that you will apply the knowledge you have been provided, apply it on performance indicator work, cause continual improvement to occur, which will have a positive impact on accomplishing the Mission of the Dept of Energy.

Bottom Up (reactive, but realistic) Approach

- ? Go find out what data you currently have
- ? Review existing Procedures, Requirements, ISMS Mechanisms
- ? Look for Compliance Issues
- ? Read the Contract
- ? Choose measures from available data

Advantage – Cost Effective

Disadvantage – Only focuses on “visible” data

Data Quality

- ? Data should be replicable
- ? Operational Definitions are a must
- ? Source Data must be defined
- ? There is no “true value” of anything, but a good operational definition can save much trouble in the future

ANYONE at ANYTIME in the future should be able to apply the same operational definition to the same source data, and get the same results.

Plan Ahead

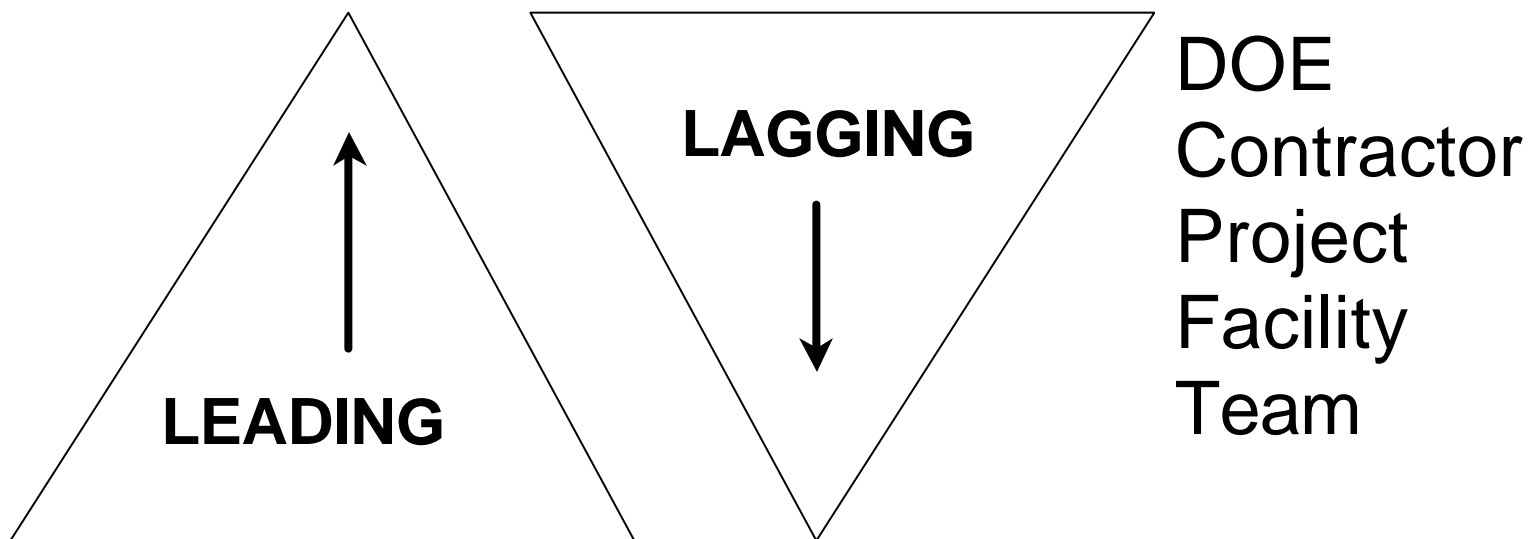
“It’s absolutely vital for business that you settle this method of counting, measuring, definition of faults, mistake, defect, before you do business. It’s too late afterwards”

-W Edwards Deming

How many initiatives have we embarked upon, without a clear set of indicators established up front, only to be left with, a year afterwards, trying to figure out “what happened”?

Leading and Lagging Indicators

- ? Lagging Indicators dominate at the higher levels, reflecting outcomes. Tend to be standardized and dictated from above.
- ? Leading indicators dominate at the lower levels, reflecting processes that achieve the outcomes. Tend to be bottom-up, customized indicators.



Example Leading and Lagging Flow

DOE: Lost Workday Case Rate

Contractor: Lost Workday Case Rate, VPP STAR Status
OSHA Recordable Case Rate

Project: OSHA Recordable Case Rate, ORPS
Facility Evaluation Board OSH Results

Facility: OSHA + First Aid Case Rate, Self Assessments,
Housekeeping Inspection Results

Work Team: Safety Related Work Package Cycle Time
Procedure Compliance rates

Performance Indicator Evolution

As a process matures, one may end up evolving the indicators used. For example, if interested in completing actions by commitment dates, one may end up using (as the process matures):

- 1st. Percent of Actions completed by due date in effect at time of completion
- 2nd. Percent of Actions completed without missing any due dates during their life
- 3rd. Percent of Actions completed by the original due date
- 4th. Average days Actions completed ahead of original due date

The Search for the “Perfect” Indicator

- ? When committees get together and try to table-top the perfect indicator, often paralysis sets in
- ? Realize all data are flawed, there is no “true value”, indicators can always be “gamed”
- ? Putting the right culture of HOW to use performance indicators in place minimizes adverse impacts
- ? Gain experience with simple indicators, then move on to more complex indicators if needed
- ? With proper analysis, flaws with existing data can be detected and fixed. If you never look at the data, there will never be an incentive to fix the data.

Review: Three Kinds of Numbers for Management.

- ? Facts of life. If we don't make this profit figure, we will go out of business
- ? Planning, prediction and budget. Can be used to compare alternative plans.
- ? Arbitrary numerical targets. Generally used to judge workers by.

Avoid the use of the 3rd kind of number

Credit: Henry Neave The Deming Dimension

Conclusion:

- ? Good use of data will encourage Performance Indicator Development
- ? All data are flawed – Set up good Operational Definitions to minimize flaws
- ? “Just Do It” – Start collecting data and use it
- ? There is not such thing as a bad performance indicator, only bad use of performance indicators
- ? Good use of performance indicators will lead to continual improvement